GCCS System Integration Support

JEPES Maintenance Manual Update

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Prepared for:

DISA/D611
ATTN: Ms. Claire Burchell
45335 Vintage Park Plaza
Sterling, VA 20166-6701

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Prepared by:

Computer Sciences Corporation
Defense Enterprise Integration Services
Four Skyline Place
5113 Leesburg Pike, Suite 700
Falls Church, VA 22041

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JEPES MAINTENANCE MANUAL
UPDATE

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APPENDICES

1.0 SCOPE

1.1 Identification

The Joint Engineer Planning and Execution System (JEPES) Version 4.0 operates in a UNIX client-server environment. The operating system is Solaris 2.3. The ORACLE Relational Database Management System (RDBMS) resides on the server and the JEPES application on the client. The ORACLE RDBMS is Version 7.1. SQL*Net is used to communicate between the ORACLE database and the JEPES application. The JEPES application consists of ORACLE Forms 4.0, Structured Query Language (SQL), Procedural Language/Structured Query Language (PL/SQL), Control (CTL) File, C-Shell Scripts, Applixware files and Ada software. ORACLE Forms 4.0 code is used for the Graphical User Interface (GUI). SQL and PL/SQL code are used for updating/querying the ORACLE database and for generating reports. CTL code is used for loading text files into the ORACLE tables. C-shell scripts are used for interfacing between the ORACLE Forms 4.0 code and the SQL, CTL code and the Ada code. Applixware scripts are used for generating/printing graphics and spreadsheets. The Ada code is used for the algorithmic software.

The following lists the Commercial-Off-The-Shelf (COTS) products used by JEPES and their version numbers:

a. ORACLE 7 - 7.1.4.1.0,
b. ORACLE Forms 4.0 - 4.0.13.20.0,
c. SQL*Plus - 3.1.3.5.1,
d. PL/SQL - 2.1.4.0.0,
e. SQL*Loader - 7.1.4.1.0,
f. SQL*Net - 2.0.15.0.0, and
g. Applixware - 3.2.

1.2 Application Overview

This JEPES Maintenance Manual Update explains the composition and maintenance of JEPES, a subsystem of the Joint Operation Planning and Execution System (JOPES) within the Global Command and Control System (GCCS). JEPES is an automated tool for use by the Joint Staff (JS), the Commanders-in-Chief (CINCs) of the unified and specified commands, and the Service Civil Engineering planners.

JEPES is a menu-driven system that assists in preparing and evaluating the Civil Engineering Support Plan (CESP) annex to Operation Plans (OPLANs). JEPES begins the development of a CESP for a new OPLAN by using/accessing the Type Unit Characteristics File (TUCHA) and Time-Phased Force and Deployment Data (TPFDD) from the JOPES Core database, and Real Property Inventory (RPI) Asset data from the Services (Army, Navy and Air Force). JEPES provides functions to add, delete, modify, and analyze the JEPES database. JEPES also provides functions to import and export the JEPES database. JEPES generates facilities requirements needed to support deploying forces. JEPES then determines if adequate facilities exist to support the deploying forces. If not, JEPES determines if adequate engineering resources are available to construct any required facilities. A series of reports and graphics can be produced to show generated requirements, existing assets, and existing engineering resources. JEPES also provides data for Logistics Sustainability Analysis (LSA) and Logistics Sustainment Analysis and Feasibility Estimator (LOGSAFE) subsystems.

JEPES has six major sets of capabilities which are described below:

a. **Utilities**. Utilities allows the user to export and import the plan-dependent tables, plan-independent tables and the entire JEPES database. The user can also import ORACLE Version 6.0 export files that were created using the JEPES 3.0 Personal Computer (PC) version and were file transferred to the UNIX client machine. The user also can extract TPFDD and TUCHA data from the JOPES Core database and Combined Asset data from RPI and store them in JEPES tables.

b. **Database Maintenance**. Database Maintenance consists of two subordinate capabilities. Edit Tables provides the user the capability to query, delete, edit, and add data within JEPES database tables. Database Analysis checks for data consistency across tables. Reports are generated if discrepancies are detected. Update JEPES Tables updates certain JEPES tables for database consistency and is used during rebasing.

c. **Requirements Generation**. Requirements Generation currently consist of four models that generate a set of engineering requirements to be satisfied for a specific OPLAN. Requirements can be generated for unit allocated, planner facility, population, and base requirements. (In the future, a user will be able to also generate requirements for medical, ammunition, Operation and Maintenance [O&M], and Petroleum, Oil and Lubricants [POL].) Reports can be produced for all projects or for those limited to a specific base. Graphs and spreadsheets can be generated to display population and various time-phased requirements.

d. **Requirements Analysis**. Requirements Analysis contains two subordinate capabilities. Apply Assets satisfies the facility requirements generated by the Requirements Generation using existing facilities. This capability takes into consideration the availability of U.S. and Host Nation assets. Printed reports can be generated to display all asset-satisfied and asset-unsatisfied requirements.

   Apply Engineering Resources assigns engineering resources to requirements that were not satisfied by the Apply Assets capability. These resources can include Host Nation and contractor engineering resources as well as U.S. resources. Printed reports listing construction requirements and any remaining unsatisfied requirements can be produced.

e. **Reports/Queries**. Reports/Queries allows the user to generate printed standard reports, spreadsheets and graphs related to the Requirements Generation and Requirements Analysis capabilities. The user may generate a previously defined user report. The user may also construct an ad hoc query or call a pre-defined ad hoc query.

f. **Support Functions**. Support Functions provides the engineering planners with the ability to analyze the JEPES outputs in terms of OPLAN sustainability, and to evaluate alternative Courses Of Action (COAs). This information can be sent to the LSA system. Support Functions provides non-unit cargo information to be sent to the LOGSAFE system. Tutorial and System Administration capabilities are not yet available.

1.2.1 History

JEPES was originally designed as a replacement for the Civil Engineering Support Plan Generator (CESPG) system to automate the development of engineering requirements, evaluate the adequacy of these requirements and the civil engineering support capabilities to fulfill these requirements, as well as generate non-unit cargo records for an OPLAN to be used by Service, Unified Command, and JS planners. The CESPG had become too complex and cumbersome for easy use. The long learning curve involved, lack of a user-friendly interface, and absence of a flexible "what-if" capability resulted in the system's under-utilization and failure as a simple and effective planning tool. The development of JEPES was intended to address these CESPG issues and to provide a more user-friendly, automated tool with enhanced capabilities.

Originally, JEPES was developed as a stand-alone system for use on a PC. The Relational Database Management System (RDBMS) was ORACLE 5.0, the GUI used ORACLE Forms 2.3, the algorithms were written in Ada and the graphics used Windows/WingZ. JEPES provided the following basic functions:

a. Query/Edit JEPES tables,
b. Database Analysis,
c. Requirements Generation, and
d. Requirements Analysis.

JEPES was later upgraded to ORACLE 6.0 and Forms 3.0 and the following functions were added:

a. Import/Export JEPES databases,
b. Generating Standard and User-Defined Reports,
c. Ad-Hoc Queries,
d. Non-Unit Cargo, LOGSAFE functionality, and
e. LSA functionality.

With the advent of GCCS, JEPES Version 4.0 was incorporated as a subsystem of JOPES within GCCS. The following functionalities were incorporated:

a. Import TPFDD data from JOPES Core database,
b. Import TUCHA data from JOPES Core database, and
c. Import Combined Asset data from RPI.

1.2.2 JEPES Sponsor

The JEPES Sponsor is the Defense Information Systems Agency (DISA). The following is the JEPES Project Officer's address:

Defense Information Systems Agency (DISA)
Center for Software
ATTN: JEXNCP
JEPES Project Officer
5600 Columbia Pike
Falls Church, VA 22041

1.3 Document Overview

This document details the information required by MIL Standard 498, Data Item Description, DI-IPSC-81441. The main document contains the Scope, References, Notes and forward references to the remaining information in the appendices. The appendices contain the detailed technical information to support JEPES maintenance. The majority of this information is accessible on-line. Appendix A contains requirements, software support information and qualification provisions. Appendix B contains the JEPES GCCS Hardware Requirements Questionnaire, which was previously delivered to the Government GCCS Configuration Management Office with each JEPES software delivery. Appendix C provides requirements traceability information.

2.0 REFERENCED DOCUMENTS

The following documents are referenced in, or are applicable to, this manual:

a. Defense Information Systems Agency, GCCS System Integration Support, Joint Engineer Planning and Execution System (JEPES), Users Manual, Washington, D.C., June 21, 1996.

b. Defense Information Systems Agency, Scheduling and Movement (S&M), GCCS Core Database, Maintenance Manual, Washington, D.C., August 25, 1994.

c. Defense Systems Support Organization, Joint Engineer Planning and Execution System (JEPES), Terminal Users Guide (TUG), Washington, D.C., September 30, 1993.

d. Joint Data Systems Support Center, Joint Engineer Planning and Execution System (JEPES), Software Development Plan, Washington, D.C., February 28, 1991.

e. Joint Data Systems Support Center, Joint Engineer Planning and Execution System (JEPES), System Specification, Washington, D.C., May 17, 1990.

f. Joint Data Systems Support Center, Joint Operation Planning System (JOPS), Civil Engineering Support Plan Generator (CESPG), Users Manual CSM, UM 122-86, Washington, D.C., April 1, 1986.

g. Defense Enterprise Integration Services, Joint Engineer Planning and Execution System (JEPES), Software Test Description and Procedures, Sterling, VA, February 7, 1995.

h. Defense Information Systems Agency, GCCS Integration and Engineering Support, Technical Report - Study/Service Specifying Procedures and Recommendation to Migrate JEPES to the JOPES C/S Environment, Falls Church, VA, November 23, 1994.

i. Defense Enterprise Integration Services, GCCS System Engineering Support, Installation Instruction Input for Joint Engineer Planning and Execution System (JEPES), Sterling, VA, April 14, 1995.

j. Defense Information Systems Agency, Global Command and Control System (GCCS) Integration Standard, Version 1.0, Washington D. C., October 26, 1994.

k. Alsys, Ada World for SPARCstations under Solaris 2.x, Installation Manuals, Version 5.5.2, Alsys Inc., Burlington, Massachusetts, February 16, 1994.

l. Alsys, Ada World for SPARCstations under Solaris 2.x, Host Specific Manuals, Version 5.5.2, Alsys Inc., Burlington, Massachusetts, March 2, 1994.

m. Computer Sciences Corporation, Systems Engineering Division, GCCS JOPES Migration Engineering and Implementation, Software Development Plan (SDP), Falls Church, Virginia, June 15, 1995.

n. Computer Sciences Corporation, Systems Engineering Division, JOPES Software Development Standards, Falls Church, Virginia, July 25, 1995.

3.0 REQUIREMENTS

The JEPES application requirements are documented within this section. This application operates within the context of the GCCS Desktop as a standard executable. The JOPES High Level System Navigation (JNAV) process must be capable of also launching the process(es) for the JEPES application.

3.1 Executable Software

Refer to Appendix A.1.2 for this section.

3.2 Source Files

Refer to Appendix A.1.1 for this section. Note that the source files will be delivered on a tape for installation.

3.3 Segmentation Scripts

Refer to Appendix A.1.3 for this section.

4.0 QUALIFICATION PROVISIONS

Refer to Appendix A.5 for this section.

5.0 SOFTWARE SUPPORT INFORMATION

5.1 "As Built" Software Design

Refer to Appendix A.2.2 for this section.

5.2 Compilation/Build Procedures

Refer to Appendix A.3 for this section.

5.3 Modification Procedures

Refer to Appendix A.4 for this section.

5.4 Computer Hardware Resource Utilization

Refer to Appendix B for this section.

6.0 REQUIREMENTS TRACEABILITY

Refer to Appendix C for this section.

7.0 NOTES

The following acronyms are used in this document:

CESP	Civil Engineering Support Plan
CESPG	Civil Engineering Support Plan Generator
CINC	Commander-in-Chief
COA	Course of Action
COTS	Commercial-Off-The-Shelf
CTL	Control
DBA	Database Administrator
DISA	Defense Information Systems Agency
GCCS	Global Command and Control System
GSPR	GCCS Software Problem Report
GUI	Graphical User Interface
JEPES	Joint Engineer Planning and Execution System
JNAV	JOPES High Level System Navigation
JOPES	Joint Operation Planning and Execution System
JS	Joint Staff
LOGSAFE	Logistics Sustainment Analysis and Feasibility Estimator
LSA	Logistics Sustainability Analysis
OPLAN	Operation Plan
O&M	Operation and Maintenance
PC	Personal Computer
PL/SQL	Procedural Language/Structured Query Language
POL	Petroleum, Oil and Lubricants
RDBMS	Relational Database Management System
RPI	Real Property Inventory
SPM	Software Programmer's Manual
SQL	Structured Query Language
TPFDD	Time-Phased Force and Deployment Data
TUCHA	Type Unit Characteristics
TUG	Terminal Users Guide
UM	Users Manual
WWMCCS	Worldwide Military Command and Control System